**Warming Good Core**

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# 1NC GLOBAL WARMING GOOD

**Global warming Good – reduces human death.**

**Idso** November 20**03** (Craig, Enhanced or Impaired? Human Health in a CO2-Enriched Warmer World, **http://www.co2science.org/education/reports/health/toc.php)**

These numbers indicate that a typical cold-spell day kills at a rate that is 17% greater than a typical heat-wave day in the Netherlands. In addition, the researchers note that the heat waves they studied ranged from 6 to 13 days in length, while the cold spells lasted 9 to 17 days, making the average cold spell approximately 37% longer than the average heat wave. Adjusting for this duration differential thus makes the number of deaths per cold spell in the Netherlands fully 60% greater than the number of deaths per heat wave. What is more, excess mortality continued during the whole month after the cold spells, leading to even more deaths; while in the case of heat waves, there actually appeared to be mortality deficits in the following month, which suggests, in the words of the authors, "that some of the heat-induced increase in mortality can be attributed to those whose health was already compromised" or "who would have died in the short term anyway." This same conclusion has also been reached in a number of other studies (Kunst et al., 1993; Alberdi et al., 1998; Eng and Mercer, 1998; Rooney et al., 1998). It is highly likely, therefore, that the 60% greater death toll we have calculated for Dutch cold spells as compared to Dutch heat waves is a vast underestimate of the true differential killing power of these two extreme weather phenomena. The Dutch could well ask themselves, therefore, "Will global climate change reduce thermal stress in the Netherlands?" ... which is exactly what the senior and second authors of the Huynen et al. paper did in a letter to the editor of Epidemiology that bore that very title (Martens and Huynen, 2001). Based on the predictions of nine different GCMs for an atmospheric CO2 concentration of 550 ppm in the year 2050 -- which implied a 50% increase in Dutch heat waves and a 67% drop in Dutch cold spells -- they calculated a total mortality decrease for Holland of approximately 1100 people per year at that point in time. Yes, global warming -- if it continues, and for whatever reason -- **will result, not in more lives lost, but in more lives saved**. And it's not just the Dutch that will be thus blessed; data from all over the world tell the same story.

# 2NC GLOBAL WARMING GOOD

**Warming Good – Less people freeze to death**

Sophie **Borland** 12:01AM BST 14 Sep 20**07** , Global warming 'is good and is not our fault'<http://www.telegraph.co.uk/news/uknews/1563054/Global-warming-is-good-and-is-not-our-fault.html>

Global warming is an entirely natural phenomenon and its effects can even be beneficial, according to two leading researchers. Recent climate change is not caused by man-made pollution, but is instead part of a 1,500-year cycle of warming and cooling that has happened for the last million years, say the authors of a controversial study. Dennis Avery, an environmental economist, and Professor Fred Singer, a physicist, have looked at the work of more than 500 scientists and concluded that it is very doubtful that man-made global warming exists. They also say that temperature increase is actually a good thing as in the **past sudden cool periods have killed twice as many people as warm spells.** Mr Avery, a senior research fellow at the Hudson Institute, an independent US think-tank, said: "Not all of these researchers who doubt man-made climate change would describe themselves as global warming sceptics but the evidence in their studies is there for all to see.

**Warming Good – Significantly reduces deaths in cold winter times.**

**Langford and Bentham, 95** ( Ian H. Langford - Health Policy and Practice Unit, School of Health and Social Work, University of East Anglia and Graham Bentham - Centre for Social and Economic Research on the Global Environment, School of Environmental Sciences, University of East Anglia, 1995, “The potential effects of climate change on winter mortality in England and Wales,” International Journal of Biometeorology, CM) http://www.uea.ac.uk/env/cserge/pub/wp/gec/gec\_1993\_25.pdf

In Britain death rates from several important causes, particularly circulatory and respiratory diseases, rise markedly during the colder winter months. This close association between temperature and mortality suggests that climate change as a result of global warming may lead to a reduction in excess winter deaths in the future. This paper begins with a brief review of the literature on the links between cold conditions and health. It goes on to develop statistical models of the associations between monthly mortality rates for the period 1968 to 1988 for England and Wales, and temperature. Other factors, particularly the occurrence of influenza epidemics are also taken into account. Highly significant negative associations were found between temperature and death rates from all causes and from chronic bronchitis, pneumonia, ischaemic heart disease and cerebrovascular disease. The statistical models developed from this analysis were then used to compare death rates for current conditions with those that might be expected to occur in a future warmer climate. The results indicate that the higher temperatures predicted for 2050 might result in nearly 9000 fewer winter deaths each year with the largest contribution being from mortality from ischaemic heart disease. It should be stressed that these are preliminary estimates that might change when further research is able to take into account a number of additional factors affecting the relationship between mortality and climate.

# 1NC PLANT GROWTH

**Global Warming Good – significantly increases plant growth.**

**Carlisle** April 20**01** ( John is the: director of The National Center for Public Policy Research's Environmental Policy Task Force Publisher: National

Center for Public Policy Date: 2001 URL: <http://www.nationalcenter.org/NPA334.html>)

That simple fact must be restated to counter environmentalists' baseless allegations that the accumulation of man-made carbon dioxide, produced by cars, power plants and other human activities, is causing dangerous global warming. Indeed, far from being a poisonous gas that will wreak havoc on the planet's ecosystem, carbon dioxide is arguably the Earth's best friend in that trees, wheat, peanuts, flowers, cotton and numerous other plants significantly benefit from increased levels of atmospheric carbon dioxide. Dr. Craig Idso of the Center for the Study of Carbon Dioxide and Global Change, one of the nation's leading carbon dioxide research centers, examined records of atmospheric carbon dioxide concentrations and air temperature over the last 250,000 years. There were three dramatic episodes of global warming that occurred at the end of the last three ice ages. Interestingly, temperatures started to rise during those warming periods well before the atmospheric carbon dioxide started to increase. In fact, the carbon dioxide levels did not begin to rise until 400 to 1,000 years after the planet began to warm. Concludes Dr. Idso, "Clearly, there is no way that these real-world observations can be construed to even hint at the possibility that a significant increase in atmospheric carbon dioxide will necessarily lead to any global warming."1 On the other hand, scientists have lots of evidence demonstrating that increased carbon dioxide levels leads to healthier plants. A team of scientists in Nevada conducted a five-year experiment in which they grew one group of ponderosa pine trees at the current carbon dioxide atmospheric level of about 360 parts per million (ppm) and another group of pines at 700 ppm. The doubled carbon dioxide level increased tree height by 43 percent and diameter by 24 percent. Similarly, a team of scientists from Virginia Tech University reported that growing loblolly pine trees in a greenhouse with a carbon dioxide concentration of 700 ppm increased average tree height 9 percent, diameter by 7 percent, needle biomass by 16 percent and root biomass by 33 percent.2 Increased atmospheric carbon dioxide doesn't just make a plant bigger. Carbon dioxide also makes plants more resistant to extreme weather conditions. In a study discussed in the journal Plant Ecology, a team of scientists subjected the Mojave Desert evergreen shrub to three different concentrations of carbon dioxide - the current level of 360 ppm and at 550 ppm and 700 ppm. The plants, which were being grown in simulated drought conditions, responded more favorably in the carbon dioxide-rich environments. Photosynthetic activity doubled in the 550 ppm environment and tripled at 700 ppm. Increased photosynthetic activity enables plants to withstand drought better.3 Likewise, a team of biologists grew seedlings of three yucca plants in cooler greenhouse environments at the 360 ppm and 700 ppm concentrations. The yucca plants exposed to the enhanced carbon dioxide concentration showed a greater resistance to the colder temperatures. Dr. Robert Balling, a climatologist at Arizona State University, notes that by making plants healthier and more resistant to extreme weather conditions, higher levels of atmospheric carbon dioxide expands the habitat of many plants, improves rangeland in semi-arid areas and enhances agricultural productivity in arid areas.4 Another benefit of enhanced atmospheric carbon dioxide is that it helps the tropical rainforests. Scientists from Venezuela and the United Kingdom grew several species of tropical trees and other plants in greenhouse conditions at carbon dioxide concentrations double the current level. The plants responded favorably, showing an increase in photosynthetic activity. The scientists concluded that, "In a future atmosphere with a higher carbon dioxide concentration, these species should be able to show a higher productivity than today."5 Another team of British and New Zealand researchers grew tropical trees for 119 days at elevated levels of atmospheric carbon dioxide. They found that the enriched carbon dioxide environment stimulated the trees' root growth by 23 percent. Expanded root systems help tropical trees by increasing their ability to absorb water and nutrients.6 Bigger trees, increased resistance to bad weather, improved agricultural productivity and a boon to rainforests are just some of the many benefits that carbon dioxide bestows on the environment. With little evidence that carbon dioxide triggers dangerous global warming but lots of evidence showing how carbon dioxide helps the environment, environmentalists should be extolling the virtues of this benign greenhouse gas.

**Plant growth solves environmental collapse**

**Akhandjyoti** 20**03** » Mar Apr 2003 » Magazine » » The Disaster of Deforestation The Disaster of Deforestation, http://www.akhandjyoti.org/?Akhand-Jyoti/2003/Mar-Apr/Deforestation/)

Besides being the source for food, plants help us in a number of other ways. Animals, including humans, inhale oxygen and exhale carbon dioxide; plants take up carbon dioxide and in return they release oxygen – this exchange is very important. Forests in particular act as a huge carbon dioxide sink. If there were not enough trees to absorb carbon dioxide, its accumulation would make the environment **poisonous**. Over the last 150 years, the amount of carbon dioxide has increased by about 25%.3 Carbon-dioxide also contributes to global warming.

# 1NC CO2 GOOD – Disease

**CO2 Good – Boosts food production and fights disease**

**Steward no date** (H. Leighton Contact for Press & Media speaking engagements Leighton Steward is a geologist, environmentalist, author, and retired energy industry executive. He has written about the reasons for the loss of much of the Mississippi River delta (Louisiana's National Treasure) and has given advice on how the nation can achieve "no net loss" of wetlands in the future; advice that has been accepted by the EPA and U. S. Corps of Engineers.

<http://www.plantsneedco2.org/default.aspx?menuitemid=252>)

Far from being a pollutant, rising atmospheric CO2 concentrations will **never directly harm human health**, but will indirectly benefit humans in a number of ways. Chief among these benefits is global food security. People must have sufficient food, simply to sustain themselves; and the rise in the atmosphere's CO2 concentration that has occurred since the inception of the Industrial Revolution (an increase of approximately 100 ppm) has done wonders for humanity in this regard. And, it will continue to work wonders in helping us meet the rising food consumption needs of a larger, future population. In addition to increasing the quantity of food available for human consumption, the rising atmospheric CO2 concentration is also increasing the quality of the foods we eat. It significantly increases the quantity and potency of the many beneficial substances found in their tissues (such as the vitamin C concentration of citrus fruit), **which ultimately make their way onto our dinner tables and into many of the medicines we take, improving our health and helping us better contend with the multitude of diseases and other maladies that regularly afflict us**. In just one species of spider lily, for example, enriching the air with CO2 has led to the production of higher concentrations of several substances that have been demonstrated to be effective in fighting a number of human maladies, including leukemia, ovary sarcoma, melanoma, and brain, colon, lung and renal cancers, as well as Japanese encephalitis and yellow, dengue, Punta Tora and Rift Valley fevers.

**And Diseases cause extinction**

**Sandberg 8** (Dr. Anders, Postdoctoral Research Fellow at the Uehiro Centre for Practical Ethics – Oxford University “How Can We Reduce The Risk Of Human Extinction?”, Bulletin of the Atomic Scientists, 9-9, <http://www.thebulletin.org/web-edition/features/how-can-we-reduce-the-risk-of-human-extinction>)

The risks from anthropogenic hazards appear at present larger than those from natural ones. Although great progress has been made in reducing the number of nuclear weapons in the world, humanity is still threatened by the possibility of a global thermonuclear war and a resulting nuclear winter. We may face even greater risks from emerging technologies. Advances in synthetic biology might make it possible to engineer pathogens capable of extinction-level pandemics. The knowledge, equipment, and materials needed to engineer pathogens are more accessible than those needed to build nuclear weapons. And unlike other weapons, pathogens are self-replicating, allowing a small arsenal to become exponentially destructive. Pathogens have been implicated in the extinctions of many wild species. Although most pandemics "fade out" by reducing the density of susceptible populations, pathogens with wide host ranges in multiple species can reach even isolated individuals. The intentional or unintentional release of engineered **pathogens with high transmissibility, latency, and lethality might be capable of causing human extinction**. While such an event seems unlikely today, the likelihood may increase as biotechnologies continue to improve at a rate rivaling Moore's Law.

# 1NC CO2 GOOD – Environment

**Increased CO2 boosts the environment – Solves environmental collapse**

**CO2isGreen 11** (Co2isGreen is an organization whos purpose is to support scientifically and economically sound public policy on environmental issues)( <http://co2isgreen.org/default.aspx/MenuItemID/139/MenuGroup/Home.htm>)

CO2 is necessary to plant and animal life on Earth. Unfortunately, the positive effects of CO2 in our atmosphere have not been given proper consideration within the legislative, judicial, and regulatory proceedings.  Plant photosynthesis processes use CO2 for growth and create oxygen.  More CO2 in the atmosphere will increase plant growth as thousands of controlled greenhouse research records prove.  These same studies prove that most plants do not grow at CO2 concentration of less than 150 ppm.  They further demonstrate that a rise in CO2 levels from 280 ppm to 385 ppm has increased average plant growth and required less water consumption to accomplish that growth

**Environmental Collapse means extinction.**

**Patrick**, Patent lawyer, 19**90**[J.D. from Harvard and currently practices patent law in St. Louis, majored in Environmental Engineering at the University of Texas at Austin, UNH School of Law, “Using Management Techniques to Solve Environmental Problems,” <http://law.unh.edu/risk/vol1/summer/kelly.htm>, asb, DOA: 7.23.11]

My comments above are a suggestion that the human population may be decreased by some reasonably small fraction. That seems inevitable, somehow or another, sooner or later. To place that possibility in perspective, consider that a number of scientists have warned that the total extinction of the human race may be approaching unless we solve our environmental problems.21 After reviewing the mass extinctions that occurred at the ends of the Ordovician, Devonian, Permian, Triassic, and Cretaceous periods during the last 600 million years, Douglas Futuyma, the author of the most highly regarded comprehensive text on evolution, concluded, "tropical forests with their richness of species face almost complete annihilation, temperate zone forests and prairies have been eliminated in much of the world, and even marine communities suffer pollution and over-exploitation. In the next several hundred years one of the greatest mass extinctions of all time will come to pass unless we act now to prevent it".22 In the words of Thomas Lovejoy of the Smithsonian Institute, "I am utterly convinced that most of the great environmental struggles will be either won or lost in the 1990's, and that by the next century it will be too late".23 In the words of Lester Brown of the Worldwatch Institute, "We do not have generations, we only have years in which to attempt to turn things around".24 Anyone accustomed to thinking hope is never lost should contemplate what Lovejoy and Brown mean by phrases such as "won or lost," "too late," and "we only have years." They aren't saying that unless we act, we will have to live with nagging annoyances; instead, they are warning us that most of the species that currently exist on this planet are being rapidly driven extinct. Even if the human race is somehow clever enough to survive the catastrophe it caused, there can be little doubt that the number of humans that could be supported by a crippled ecosystem will decrease; the only question is how large that decrease will be. All of the national news magazines and TV networks have run feature stories which talk in complete seriousness about worldwide catastrophe and the possible extinction of humans unless we solve the greenhouse effect and ozone depletion.25 Even magazines such as Reader's Digest, Sports Illustrated, and TV Guide have run feature articles warning of dire catastrophe unless we begin solving those two problems.26 Surely, everyone has heard the warnings by now . . . we just haven't done anything about them.

# 2NC CO2 GOOD – Environment

**CO2 good for the ecosystem, and nature absorbs the majority of CO2 we pump into it.**

Roy **Spencer** MAY 1, 20**08** (Spencer is a Senior Scientist for Climate Studies at NASA’s Marshall Space Flight Center) (http://www.nationalreview.com/articles/224319/more-carbon-dioxide-please/roy-spencer)

Well, plant physiologists have known for a long time that most vegetation loves more carbon dioxide. It grows faster, is more drought-tolerant, and is more efficient in its water use. While the pre-industrial CO2 concentration of the atmosphere was only about 280 parts per million (ppm) by volume, and now it is around 380 ppm, some greenhouses pump it all the way up to around 1,000 ppm. How can environmentalists claim that helping vegetation to grow is a bad thing? The bigger concern has been the possible effect of the extra CO2 on the world’s oceans, because more CO2 lowers the pH of seawater. While it is claimed that this makes the water more acidic, this is misleading. Since seawater has a pH around 8.1, it will take an awful lot of CO2 it to even make the water neutral (pH=7), let alone acidic (pH less than 7). Still, the main worry has been that the extra CO2 could hurt the growth of plankton, which represents the start of the oceanic food chain. But recent research (published on April 18 in Science Express) has now shown, contrary to expectations, that one of the most common forms of plankton actually grows faster and bigger when more CO2 is pumped into the water. Like vegetation on land, it loves the extra CO2, too! It is quite possible that the biosphere (vegetation, sea life, etc.) has been starved for atmospheric CO2. Before humans started burning fossil fuels, vegetation and ocean plankton had been gobbling up as much CO2 out of the atmosphere as they could, but it was like a vacuum cleaner trying to suck through a stopped-up hose. Now, no matter how much CO2 we pump into the atmosphere each year, the biosphere takes out an average of 50 percent of that extra amount. Even after we triple the amount of CO2 we produce, nature still takes out 50 percent of the extra amount.

# 2NC CO2 GOOD – More Emissions Key

**CO2 is low – continued emissions good to return to normal CO2 levels.**

Frank J. **Tipler** August 5, 20**09** (Tipler is a mathematical physicist and cosmologist, holding a joint appointment in the Departments of Mathematics and Physics at Tulane University.) (<http://pajamasmedia.com/blog/humans-and-their-co2-save-the-planet/?singlepage=true>)

As the Senate considers the fate of the cap-and-trade bill, we should consider what it means for more carbon dioxide to be added to the atmosphere, something the bill intends to prevent. Carbon dioxide is first and foremost a plant food. In fact, plants take carbon dioxide from the atmosphere and use the energy from sunlight to combine the CO2 with water to yield glucose, the simplest sugar molecule. Carbon dioxide is also the source of all organic — this word just means “contains carbon” — molecules synthesized by plants. Without carbon dioxide in the atmosphere, there would be no organic molecules synthesized by plants. The less carbon dioxide there is in the atmosphere, the fewer organic molecules synthesized by plants. All animals depend on plants to synthesize essential organic molecules. Without the organic molecules synthesized by plants, the animal world could not exist. Without plants, there would be no biosphere. Several million years ago, a disaster struck the terrestrial biosphere: there was a drastic reduction in the percentage of CO2 in the atmosphere. The flowering plants evolved to be most efficient when the percentage of CO2 in the atmosphere was about 1,000 parts per million. But the percentage had dropped to a mere 200 parts per million. Plants tried to adapt by evolving a new, more efficient way of using the little remaining CO2. The new mechanism, the C4 pathway, appeared in grasses, including corn and wheat, which enabled these plants to expand into the plains. If the carbon dioxide percentage had stayed low — or worse, had decreased further — the entire biosphere would have been endangered. Fortunately for the plants and the rest of the biosphere depending on them, a wonderful thing happened about 150,000 years ago: a new animal species, *Homo* *sapiens,* evolved. This creature was endowed with a huge brain, enabling it to invent a way to help the plants with their CO2 problem. Gigantic amounts of carbon had been deposited deep underground in the form of coal, oil, and natural gas. Not only were these reservoirs of carbon locked away in rock, but they were in forms of carbon that the plants could not use. These wonderful humans, however, worked hard to help the plants. Not only did the humans dig the coal, oil, and natural gas, bringing it to the surface, but they converted these raw materials into the only form of carbon that plants could use: carbon dioxide. Due to the diligent plant-saving efforts of the humans, the CO2 atmospheric percentage is now at nearly 390 parts per million. Were humans to continue in their biosphere-rescuing efforts at the present rate, the CO2 level will be returned to normal in a mere few hundred years. The cap-and-trade bill is designed to stop this effort to save the biosphere. This is a profoundly evil act. In the words of the Nobel Prize winning economist Paul Krugman, anyone who supports the bill, or any measure aimed at reducing the increase of carbon dioxide in the atmosphere, is “guilty of treason against the planet**”! Those who want to reduce the use of fossil fuels are the mortal enemies of the biosphere. They must be stopped at all costs!** Write your senator at once! The astute reader will have noted that Krugman actually accused those who *opposed* the cap-and-trade bill of “treason against the planet.” What I have done is use well-known science to show that, from the biosphere’s point of view, it is the cap-and-trade bill that is “treasonable.” Remarkably, Krugman assumes that the climatic conditions of a mere century or so ago are the “natural” ones that must not be changed. A very anthropomorphic point of view is being used to denounce humanity. An ultraconservative reactionary political position is being called “progressive.”

# 1NC SO2 Screw

**Moving away from Fossil fuels results in less SO2**

**WISCONSIN DEPARTMENT OF HEALTH SERVICES** July 12, 20**10** (http://www.dhs.wisconsin.gov/eh/chemfs/fs/SulfurDioxide.htm)

Most of the sulfur dioxide released into the environment comes from electric utilities, especially those that burn coal. Some other sources of sulfur dioxide include petroleum refineries, cement manufacturing, paper pulp manufacturing and metal smelting and processing facilities. Locomotives, large ships, and some non-road diesel equipment currently burn high sulfur fuel and release sulfur dioxide into the air. In nature, volcanic eruptions can release sulfur dioxide into the air.

**And, loss of SO2 leads to supercharged Global Warming – Turns the case.**

**Michaels** 7/14/**11(**Why Hasn't the Earth Warmed in Nearly 15 Years? by Patrick J. Patrick Michaels, who is senior fellow in environmental studies at the Cato Institute and author of Climate Coup: Global Warming's Invasion of our Government and our Lives. via Cato Recent Op-eds on.)

There is no statistically significant warming trend since November of 1996 in monthly surface temperature records compiled at the University of East Anglia. Do we now understand why there's been no change in fourteen and a half years? If you read the news stories surrounding a recent paper in the Proceedings of the National Academy of Sciences by Boston University's Robert Kaufmann and three colleagues, you'd say yes, indeed. It's China's fault. By dramatically increasing their combustion of coal, they have increased the concentration of fine particles in the atmosphere **called sulphate aerosols**, which reflect away solar radiation, countering the warming that should be occurring from increasing atmospheric carbon dioxide. Further, if this is true, then (as is usual in climate-world), "it's worse than we thought." After all, China will eventually reduce their sulfate emissions as their population becomes affluent enough to demand something better than miasmic air. Indeed, they are already beginning to clean things up, and when they finally do, all the cooling particles will be gone and the earth will warm substantially. Reality may be a bit simpler, or much more complicated. But the reason this is all so important is that if there is no good explanation for the lack of warming, then an increasingly viable alternative is that we have overestimated the gross sensitivity of temperature to carbon dioxide in our computer models. One problem is that we really don't know how much cooling is exerted by sulfates, or whether they are just a convenient explanation for the failure of the forecasts of dramatic warming. The United Nations' Intergovernmental Panel on Climate Change, which grants itself climate authority, states that our "Level of Scientific Understanding" of the effects range between "low" and "very low," with a possible cooling between zero (none) and a whopping 3.5 degrees (C) when the climate comes to equilibrium (which it will never do). That's a plenty large range from which to pick out a number to cancel about as much warming as you'd like. Kaufmann's team looked into how sulfate uncertainty impacted its results and decided that it was relatively minor. However, we can't find any independent test showing that the geographic "fingerprint" of a dramatic recent increase in sulfate cooling is actually being observed. More on this in a minute. The other problem — and climate flatliners hate me for pointing this out — is that the beginning of the period of "no warming" includes the warmest year in the instrumental record, caused by the great El Niño of 1997-1998. In a modestly warming world, starting off at or near an anomalously high point pretty much assures little or no warming for years afterward. Kaufmann's team (and others) have duly noted that El Niño cycles are one factor partially responsible for the lack of recent warming. There's little doubt of this. Further, if you back out solar changes and volcanism, as they did, you can convince yourself that there is still an underlying "residual" warming trend, but it is masked by all these variables. This has been done repeatedly in the scientific literature, which, until now, did not include increasing the sulfate effect on recent temperatures. Where is the test of the hypothesis that sulfates are indeed responsible for the lack of warming? In this paper, it's simply "modeled-in" as it fits the data well. That's correlation, not causation. There is very little exchange of air between the northern and southern hemispheres, and basic climate science shows that most sulfates from China will rain out before they get across the thermal equator. In fact, there is a great deal of literature out there published by luminaries like the Department of Energy's Ben Santer and NASA's James Hansen claiming relative cooling of the northern hemisphere from sulfates, compared to the southern. So, if it is indeed sulfates cooling the warming, given that there is no net change in global temperature, then the northern hemisphere should be cooling since 1998 (the first year in Kaufmann's paper) while the southern warms. Here are the sad facts: The opposite is occurring. Why this test was not performed eludes me. Perhaps that is because it provides yet another piece of evidence supporting the hypothesis that we have simply overstated the sensitivity of surface temperature to changes in carbon dioxide.

# 2NC SO2 Screw

**And, SO2 reverses the effects of global warming**

**World Nuclear Association June** **2011** (Global Warming and Climate Change - the science, http://www.world-nuclear.org/info/inf59.html)

The major role of water vapour in absorbing thermal radiation is in some respects balanced by the fact that when condensed it causes an albedo effect which reflects about one third of the incoming sunlight back into space. This effect is enhanced by atmospheric sulfate aerosols and dust, which provide condensation nuclei. Nearly half the sulfates in the atmosphere originate from sulfur dioxide emissions from power stations and industry, particularly in the northern hemisphere. In recent decades volcanoes have contributed substantially to dust and acid aerosol levels high in the atmosphere. While at lower levels in the atmosphere sulfate aerosols and dust are short-lived, such material in the stratosphere remains for years, increasing the amount of sunlight which is reflected away. Hence there is, for the time being, a balancing cooling effect on the earth's surface. In the northern hemisphere the **sulfate aerosols are estimated to counter nearly half the heating effect** due to anthropogenic greenhouse gases.

**SO2 cancels out CO2 – holding back a wave of warming.**

**Pearce** 24 July 2**004** by Fred “Harbingers of doom?” Magazine issue 2457. http://www.realscience.org.uk/harbingers-of-doom.html)

As well as pumping gases into the atmosphere, we are also filling it with huge volumes of microscopic particles, mostly from burning forests, crop waste and fossil fuels. Depending on their characteristics, these aerosols can scatter or absorb solar radiation and may influence the formation, colour and reflectivity of clouds. The precise nature of their involvement in global temperature has been hotly disputed for a decade. But most researchers now believe that the dominant effect of these aerosols is to suppress warming by shading the planet. "We are dealing with a coiled spring, with temperatures being held back by aerosols," says Solomon. "If you shut off aerosols, temperatures would increase rapidly, but we don't yet know exactly how coiled the spring is." The best guess until recently was that this "parasol effect" was holding back a quarter of the warming so far, or about 0.2 °C. But critics say this calculation is little more than a guess. The first efforts at directly measuring the parasol effect suggest the spring may be much more tightly coiled. In an assessment last year, Nobel prize-winning atmospheric chemist Paul Crutzen argued that aerosols could be disguising between half and three-quarters of present warming (New Scientist, 7 June 2003, p 7). That suggests the coiled spring is already holding back warming of anything up to 2 °C. "The two major pollutants have been almost cancelling each other out," says Cox. This is doubly bad news. First because it shows that cleaning up aerosols would release a burst of warming. But secondly, it suggests that the climate system is much more sensitive to greenhouse gases than we thought. Crutzen's estimate would put the true warming effect of doubling CO2 at between 7 and 10 °C, which Murphy's graph predicts, albeit at a low probability. Some climate scientists find these new figures disturbing not just for what they suggest about the atmosphere's sensitivity to greenhouse gases, but also because they undermine existing predictions. Uncertainty about those predictions is stopping politicians from acting to halt global warming. So, they argue, even suggesting that the model results are less certain could be politically dangerous.

**Loss of SO2 speeds up warming faster than loss of CO2 stops it. Outweighs**

**R e i l ly** Y F E B R U A R Y 2 0 **0 3** (John M**.** Henry D. Jacob y Ronald G. Prinn MASSACHUSETTS INSTITUTE OF TECHNOLOGY to global climate change Climate Impacts and Mitigation Costs of Non - CO2 Gases Prepared for the Pew Center on Global C l i m a t e C h a n g e)

Control of SOX emissions, to limit direct health and ecosystem effects unrelated to climate, also has a strong effect, though in the opposite direction. If SOX emissions were reduced along the assumed control path, while the other non-CO2 gases remained at reference levels, the loss of the cooling aerosols to which they contribute is enough to counteract the equivalent CO2 reduction, at least out to 2050 (see the fourth bar in Figure 3). On the longer time scale to 2100, the effect relative to CO2 reduction is smaller

# 1NC AGRICULTURE

**CO2 Good, Increases food production**

**Michaels**, Patrick J. (20**04**, November 3). Patrick J. Michaels is senior fellow in environmental studies at the Cato Institute and author of Meltdown: The Predictable Distortion of Global Warming by Scientists, Politicians, and the Media (2004).Is Global Warming Always Bad? Retrieved July 21, 2011, from The Cato Institute Web site: <http://www.cato.org/pub_display.php?pub_id=2872>

Have you ever read anything good about global warming? Why is all the news always bad? Objectively speaking, any environmental change should have both positive benefits and negative effects. For example, theory predicts and observations confirm that human-induced warming takes place primarily in winter, lengthening the growing season. Satellite measurements now show that the planet is greener than it was before it warmed. There are literally thousands of experiments reported in the scientific literature demonstrating that higher atmospheric carbon dioxide concentrations -- cause by human activity -- **dramatically increase food production**. So why do we only hear one side about global warming? Perhaps because there's little incentive for scientists to do anything but emphasize the negative and the destructive. Alarming news often leads to government funding, funding generates research, and research is the key to scientists' professional advancement. Good news threatens that arrangement.

**Food production on the brink – Boost in agriculture ONLY way to solve for the collapse.**

**McMullen** Jan. 7, 20**08**, (Alia, writer for the Financial Post · | Last Updated: Jan. 7, 2008 4:00 PM ET http://www.financialpost.com/story.html?id=213343)

A new crisis is emerging, a global food catastrophe that will reach further and be more **crippling than anything the world has ever seen**. The credit crunch and the reverberations of soaring oil prices around the world will pale in comparison to what is about to transpire, Donald Coxe, global portfolio strategist at BMO Financial Group said at the Empire Club’s 14th annual investment outlook in Toronto on Thursday. “It’s not a matter of if, but when,” he warned investors. “It’s going to hit this year hard.” Mr. Coxe said the sharp rise in raw food prices in the past year will intensify in the next few years amid increased demand for meat and dairy products from the growing middle classes of countries such as China and India as well as heavy demand from the biofuels industry. “The greatest challenge to the world is not US$100 oil; it’s getting enough food so that the new middle class can eat the way our middle class does, and that means we’ve got to **expand food output dramatically**,” he said. The impact of tighter food supply is already evident in raw food prices, which have risen 22% in the past year.

**Increased Agriculture is key to survival of life on earth**

**Tilman** (8 August **2002**) David, Kenneth G. Cassman3, Pamela A. Matson4,5, Rosamond Naylor5 & Stephen Polasky “Agricultural sustainability and intensive production practices”, http://www.nature.com/nature/journal/v418/n6898/full/nature01014.html

By 2050, global population is projected to be 50% larger than at present and global grain demand is projected to double6, 7, 8. This doubling will result from a projected 2.4-fold increase in per capita real income and from dietary shifts towards a higher proportion of meat (much of it grain-fed) associated with higher income. Further increases in agricultural output are essential for global political and social stability and equity. Doubling food production again, and sustaining food production at this level, are major challenges8, 9, 10, 11. Doing so in ways that do not compromise environmental integrity4, 12, 13 and public health14, 15 is a greater challenge still. We focus here on scientific and policy challenges that must be met to sustain and increase the net societal benefits of intensive agricultural production. The supply of agricultural products and ecosystem services **are both essential to human existence and quality of life.** However, recent agricultural practices that have greatly increased global food supply have had inadvertent, detrimental impacts on the environment and on ecosystem services, highlighting the need for more sustainable agricultural methods.

# 2NC AGRICULTURE

**Agriculture solves Poverty and boosts economic recovery.**

**Benn** December 20**05** (Rt Hon Hilary MP Secretary of State for International Development, http://dfid-agriculture-consultation.nri.org/launchpapers/roleofagriculture.pdf)

Agriculture is a key part of DFID’s efforts to reduce global poverty and achieve the Millennium Development Goals.1 It extends into many other areas of development policy and complements our work on issues such as fisheries, forestry, food security, social protection, governance and trade.2 Building on our understanding of livelihoods (DFID, 2002), this paper shows why we believe agriculture should be placed at the heart of efforts to reduce poverty.3 It proposes principles and priorities to guide our work, and to help decision-makers to weigh up the potential growth and poverty impact of agriculture compared with other competing demands on resources. Our approach to agriculture is based on the premise that agriculture’s importance to poverty reduction goes far beyond its direct impact on farmers’ incomes. There is a mass of evidence that increasing agricultural productivity has benefited millions through higher incomes, more plentiful and cheaper food, and by generating patterns of development that are employment-intensive and benefit both rural and urban areas. More importantly, it has provided the spur to economic development outside agriculture where growth and job creation are faster and wages higher. Making the transition to a more diversified and faster growing economy is the key to sustained poverty reduction for the world’s poorest countries. But it is increasing agricultural productivity that has allowed poor countries to make the initial step on to the ladder leading to prosperity. This is particularly the case for labour-intensive, small-scale agriculture with its strong links to growth in other areas. No poor country has ever successfully reduced poverty through agriculture alone, but almost none have achieved it without first increasing agricultural productivity. Reversing recent disappointing trends in agriculture’s performance is critical if poor countries are to escape the trap of slow growth and poverty. This is particularly true in sub-Saharan Africa, where growth in agricultural output has barely kept pace with population. Productivity has stagnated, slowing wider economic growth and exacerbating poverty with it. In Asia, where so much of the green revolution took place, the rate of growth of agricultural productivity has begun to slow with serious consequences for further poverty reduction. It will be a challenge to increase agricultural productivity in many of the world’s poorest countries. Shortage of land and water, and factors such as globalisation, climate change, an inequitable global trading system, depressed commodity prices and HIV/AIDS create a difficult setting for agricultural development, particularly for small farmers. This has led to scepticism as to whether agriculture can still deliver growth and reduce poverty in today’s challenging context.

# 1NC DEFORESTATION

**Warming good – solves for deforestation**

**Avery 2001** "The Effects of Global Warming Will Be Beneficial." Opposing Viewpoints: Global Warming. Ed. James Haley. San Diego: Greenhaven PressDennis T**.** is the director of the Center for Global Food Issues at the Hudson Institute, where he edits Global Food Quarterly.

In the following viewpoint, Dennis T. Avery argues that the anticipated global warming of 3.5 degrees Fahrenheit over the twenty-first century will have many positive impacts. According to Avery a warmer earth will **result in lush forests**, a decrease in climate-related disasters, increased food production, and a healthier human population. He describes a medieval period when temperatures increased by an amount similar to what is currently forecasted, and he concludes that this warming had a favorable impact on the world’s population at the time.

**Deforestation causes food shortages, and desertification.**

**Abuja** **Africa News** June 9, 20**10** (Daily Trust Wednesday Environment; Towards Sustainable Environment: )

Human activities and their impact on the natural environment have had negative impacts on the ecosystem. A survey conducted by the National population Commission (NPC) indicated that more than 16 million Nigerians depend on firewood as fuel. The NPC 2006 report on its Population and Housing Census Survey found that of the over 28 million people surveyed, firewood users recorded the highest with a total of 16 million. In 2005, the United Nations Food and Agricultural Organization (FAO) said hat Nigeria had the highest rate of deforestation in the world. **The effects of deforestation include desertification and** earth warming,with **huge consequences effect on food supply.**

**Deforestation causes extinction**

**Chiang** 20**04** [Mona, Science World Staff Writer, Apr 24, vol. 60 #13]

<http://www.thefreelibrary.com/Paradise+lost%3A+can+Earth's+oldest+rain+forest+be+spared+from+total...-a0115758011>

Humans don't own Earth. We share the planet with many organisms, and we need to respect this diversity. You never know how a missing part may impact the ecosystem. Also, we can learn a lot from rain forest organisms. For example, many animals eat poisonous plants, but they don't get sick. If we can identify the chemistry in their bodies that fights plant toxins, we might learn how to cure people of some diseases. What if humans destroy all the world's rain forests? We're not sure what would happen. Rain forests are like giant lungs: The trees absorb large amounts of carbon dioxide [heat-trapping gas that contributes to global warming] from the air and "exhale" a huge quantity of oxygen. Rain forests are also important water recyclers: They soak up moisture and send water vapor back into the atmosphere. Without rain forests, Earth's heat and water cycle would be damaged, affecting global climate. **Humans may not be able to cope with the change.**

# 1NC ICE AGE

**Ice Age Inevitable – Only warming solves**

(Faye **Flam**/The Daily Friday, August 23, 20**02** <http://oudaily.com/news/2002/aug/23/its-hot-now-but-scientists-predict-theres-an-ice/>)

But the geologic record shows that the ice has retreated every 100,000 years or so for the last several million years, each cycle giving us warmer interglacial periods that last about 10,000 years. Why this cycle repeats is not known, but the prevailing theory attributes it to the elliptical nature of the Earth's orbit and a slight wobble in its tilt on its axis. Seasons occur because the Earth's tilt gives one hemisphere much more sun exposure than the other at any given time of year. But we also feel a small influence from changes in our distance from the sun, which varies from 91.5 million miles away to 94.5 million. The Earth's orbit actually gets more elliptical, making the seasonal variations more extreme. Right now the orbit is relatively round. Currently, the earth is closest to the sun in the northern hemisphere's winter, making the winters milder and summers cooler. Most of the Earth's land is now in the northern hemisphere, so this situation means more snow can stay on the ground all summer, reflecting more sunlight away and thereby pulling the temperature further down, which encourages still more snow and more cooling. That could start to pull us back into the next ice age. Without human influence, the cycle is likely to repeat. But now the total concentration of carbon dioxide in the atmosphere is more than 30 percent higher than it was at the beginning of the century, and temperatures are rising. "The warming will certainly launch us into a new interval in terms of climate, far outside what we've seen before," said Crowley. He said **it's a big enough influence to cause the cycle of ice ages to "skip a beat."** Loutre and Berger estimated that human activity will double the concentration of carbon dioxide in the atmosphere over the next century, raising temperatures as much as 10 degrees Fahrenheit. Still, "it could get much worse," said Crowl

**Ice Age causes extinction**

**Calvin** January 19**98** (William H. is a theoretical neurophysiologist at the University of Washington in Seattle, the author of such books as How Brains Think and The Cerebral Code. Some background is in the Atlantic Monthly Editor's Column, "77 NORTH WASHINGTON STREET" ”The Great Climate Flip-flop” http://standeyo.com/Reports/Ice\_age/050614.ice.age.html

ONE of the most shocking scientific realizations of all time has slowly been dawning on us: the earth's climate does great flip-flops every few thousand years, and with breathtaking speed. We could go back to ice-age temperatures within a decade — and judging from recent discoveries, an abrupt cooling could be triggered by our current global-warming trend. Europe's climate could become more like Siberia's. Because such a cooling would occur too quickly for us to make readjustments in agricultural productivity and associated supply lines, it would be a **potentially civilization-shattering affair,** likely to cause a population crash far worse than those seen in the wars and plagues of history. What paleoclimate and oceanography researchers know of the mechanisms underlying such a climate "flip" suggests that global warming could start one in several different ways.

# 2NC ICE AGE

**Ice age coming now – Earth on the brink**

**Fegel** 11.01.20**09** (Gregory F**,** who is a writer for <http://english.pravda.ru/opinion/columnists/21-10-2008/106593-missionaries_colonialists-1/> and actively writes about climate change.Earth on the Brink of an Ice Age, http://english.pravda.ru/science/earth/11-01-2009/106922-earth\_ice\_age-1/)

The earth is now on the brink of entering another Ice Age, according to a large and compelling body of evidence from within the field of climate science. Many sources of data which provide our knowledge base of long-term climate change indicate that the warm, twelve thousand year-long Holocene period will rather soon be coming to an end, and then the earth will return to Ice Age conditions for the next 100,000 years. Ice cores, ocean sediment cores, the geologic record, and studies of ancient plant and animal populations all demonstrate a regular cyclic pattern of Ice Age glacial maximums which each last about 100,000 years, separated by intervening warm interglacials, each lasting about 12,000 years

**Ice-age extremely quick – temperatures can drop in less than a decade.**

**Calvin** January 19**98** (William H. is a theoretical neurophysiologist at the University of Washington in Seattle, the author of such books as How Brains Think and The Cerebral Code. Some background is in the Atlantic Monthly Editor's Column, "77 NORTH WASHINGTON STREET" ”The Great Climate Flip-flop” http://standeyo.com/Reports/Ice\_age/050614.ice.age.html

ONE of the most shocking scientific realizations of all time has slowly been dawning on us: the earth's climate does great flip-flops every few thousand years, and with breathtaking speed. **We could go back to ice-age temperatures within a decade** ˜ and judging from recent discoveries, an abrupt cooling could be triggered by our current global-warming trend. Europe's climate could become more like Siberia's. Because such a cooling would occur too quickly for us to make readjustments in agricultural productivity and associated supply lines, it would be a potentially civilization-shattering affair, likely to cause a population crash far worse than those seen in the wars and plagues of history. What paleoclimate and oceanography researchers know of the mechanisms underlying such a climate "flip" suggests that global warming could start one in several different ways. For a quarter century global-warming theorists have predicted that climate creep was going to occur and that we needed to prevent greenhouse gases from warming things up, thereby raising the sea level, destroying habitats, intensifying storms, and forcing agricultural rearrangements. Now we know ˜ and from an entirely different group of scientists exploring separate lines of reasoning and data ˜ that the most catastrophic result of global warming could be an abrupt cooling.

**Global Warming solves Ice age.**

**Inman 08** (Mason Inman, writer at National Geographic, “ New Ice Age Predicted -- But Averted by Global Warming?” http://news.nationalgeographic.com/news/pf/29078080.html, 11/12/8)

Deep ice sheets would cover much of the Northern Hemisphere thousands of years from now—if it weren't for us pesky humans, a new study says. Emissions of greenhouse gases—such as the carbon dioxide, or CO2, that comes from power plants and cars—are heating the atmosphere to such an extent that the next ice age, predicted to be the deepest in millions of years, may be postponed indefinitely (quick guide to the greenhouse effect). "Climate skeptics could look at this and say, **CO2 is good for us,**" said study leader Thomas Crowley of the University of Edinburgh in Scotland. But the idea that global warming may be staving off an ice age is "not cause for relaxing, because we're actually moving into a highly unusual climate state," Crowley added. In about 10,000 to 100,000 years, the study suggests, Antarctic-like "permanent" ice sheets would shroud much of Canada, Europe, and Asia. "I think the present [carbon dioxide] levels are probably sufficient to prevent that from ever happening," said Crowley, whose study will appear tomorrow in the journal Nature.

# 1NC IODINE OXIDE

**Increased CO2 accelerates plant and plankton growth**

Roy **Spencer** MAY 1, 20**08** (Spencer is a Senior Scientist for Climate Studies at NASA’s Marshall Space Flight Center) (http://www.nationalreview.com/articles/224319/more-carbon-dioxide-please/roy-spencer)

Well, plant physiologists have known for a long time that most vegetation loves more carbon dioxide. It grows faster, is more drought-tolerant, and is more efficient in its water use. While the pre-industrial CO2 concentration of the atmosphere was only about 280 parts per million (ppm) by volume, and now it is around 380 ppm, some greenhouses pump it all the way up to around 1,000 ppm. How can environmentalists claim that helping vegetation to grow is a bad thing? The bigger concern has been the possible effect of the extra CO2 on the world’s oceans, because more CO2 lowers the pH of seawater. While it is claimed that this makes the water more acidic, this is misleading. Since seawater has a pH around 8.1, it will take an awful lot of CO2 it to even make the water neutral (pH=7), let alone acidic (pH less than 7). Still, the main worry has been that the extra CO2 could hurt the growth of plankton, which represents the start of the oceanic food chain. But recent research (published on April 18 in Science Express) has now shown, contrary to expectations, that one of the most common forms of plankton actually grows faster and bigger when more CO2 is pumped into the water. Like vegetation on land, it loves the extra CO2, too! It is quite possible that the biosphere (vegetation, sea life, etc.) has been starved for atmospheric CO2. Before humans started burning fossil fuels, vegetation and ocean plankton had been gobbling up as much CO2 out of the atmosphere as they could, but it was like a vacuum cleaner trying to suck through a stopped-up hose. Now, no matter how much CO2 we pump into the atmosphere each year, the biosphere takes out an average of 50 percent of that extra amount. Even after we triple the amount of CO2 we produce, nature still takes out 50 percent of the extra amount.

# 2NC IODINE OXIDE

**And, plants and plankton naturally reverse the affects of global warming – turns the case**

Dr. Sherwood B. **Idso et al. 2002** Biology Rules: On Land and at Sea Volume 5, Number 33: 14 August 2002

In our Editorial of 2 January 2002, we described the study of Eastman et al. (2001), who used a hybrid atmosphere/vegetation model composed of linked meteorological and plant growth sub-models to investigate the individual and combined consequences of the direct climatic effect of a doubling of the air's CO2 content (the so-called greenhouse effect), as well as the multi-faceted indirect climatic effect of that phenomenon, which is mediated by various plant physiological responses to atmospheric CO2 enrichment, including processes driven by CO2-induced changes in land surface albedo, leaf stomatal conductance, plant rooting profiles, fractional coverage of the land by vegetation, plant roughness length and displacement height, vegetation phenology, time of planting and harvesting (in the case of agricultural crops), and plant growth. For the part of the planet included in this regional assessment, i.e., the area located between approximately 35 and 48° N latitude and 96 and 110° W longitude, it was determined that the net result of the simultaneous actions of the direct and indirect effects of the doubled atmospheric CO2 concentration was a 0.715°C decrease in the area- and seasonally-averaged daily maximum air temperature and a 0.354°C increase in the similarly-averaged daily minimum air temperature.  Hence, what climate alarmists typically describe as detrimental, when only the greenhouse effect of atmospheric CO2 enrichment is considered, turns out to actually be beneficial, when several of the biological effects of this phenomenon are included in the calculations.  During the time of greatest heat stress (mid-afternoon), for example, temperatures are lower; while during the time of greatest cold stress (pre-sunrise), they are higher.  Likewise, the 1.069°C reduction in the average daily air temperature range is indicative of a more thermally-stable environment; and a more thermally-stable environment is a less stressful environment.  Last of all, the overall change in daily mean air temperature is not a dramatic warming, as climate alarmists are wont to claim, but a slight cooling. It is also interesting to note in this regard that the study of Eastman et al. was by no means comprehensive, in that it did not include a number of other land-based biological phenomena that are known to temper the greenhouse effect of rising atmospheric CO2 concentrations, several of which are described in our Editorial of 10 October 2001, as well as elsewhere on our website.  Yet even without these additional mechanisms, what Eastman et al. did include was sufficient to demonstrate that terrestrial plants have the ability to totally overpower any deleterious climatic consequences that, in their absence, would be expected to result from the greenhouse effect of atmospheric CO2 enrichment. But what about the portion of the planet that is covered by the vast oceans of the world?  Can the micro- and macro-algae that live in their waters do anything to counter the intensifying atmospheric greenhouse effect that is caused by the ongoing rise in the CO2 content of the air above them?  Of course they can, as may be readily appreciated by scanning the materials we have listed under just the single heading of Dimethyl Sulfide in our Subject Index.  In addition, the recently-published paper of O'Dowd et al. (2002) describes an entirely new phenomenon of this nature that may also have the capacity - all by itself, in fact - to totally thwart the CO2 greenhouse effect. What O'Dowd et al. did, in the words of Kolb (2002), who writes about their work in a companion "news and views" article in Nature, was discover "a previously unrecognized source of aerosol particles" by unraveling "a photochemical phenomenon that occurs in sea air and produces aerosol particles composed largely of iodine oxides."  Specifically, they used a smog chamber operated under coastal atmospheric conditions to demonstrate, as they report, that "new particles can form from condensable iodine-containing vapours, which are the photolysis products of biogenic iodocarbons emitted from marine algae."  With the help of aerosol formation models, they also demonstrated that concentrations of condensable iodine-containing vapours over the open ocean "are sufficient to influence marine particle formation." The significance of this work, of course, is that the aerosol particles O'Dowd et al. discovered can function as cloud condensation nuclei (CCN), helping to create new clouds that reflect more incoming solar radiation back to space and thereby cool the planet.  With respect to the negative feedback nature of this phenomenon, O'Dowd et al. cite the work of Laturnus et al. (2000), which demonstrates that emissions of iodocarbons from marine biota "can increase by up to 5 times as a result of changes in environmental conditions associated with global change."  Therefore, as O'Dowd et al. continue, "increasing the source rate of condensable iodine vapours will result in an increase in marine aerosol and CCN concentrations of the order of 20 - 60%."  Furthermore, they note that "changes in cloud albedo resulting from changes in CCN concentrations of this magnitude can lead to an increase in global raidative forcing similar in magnitude, but opposite in sign, to the forcing induced by greenhouse gases." Think about that.  A previously unrecognized source of aerosol particles, which responds to global change in such a way as to possibly totally compensate for the radiative forcing induced by real-world increases in greenhouse gases, has just been discovered ... and it's only one of many such biologically-induced negative feedbacks that exist within earth's complex climate system.  This development is indeed, as Kolb describes it, "big news to atmospheric scientists," who will need to rethink a lot of what they thought they knew about how earth's "biothermostat" operates.  But will it cause the IPCC crowd to deviate in the least degree from their cherished-but-bogus objective of saving the planet from catastrophic CO2-induced global warming?  Mark our words, it will not.  And that must surely tell one something about their motives.

# 1NC WINTER WHEAT

**CO2 Good – Boosts Winter Wheat yields.**

(Dijkstra, P., **Schapendonk,** A.H.M.C., Groenwold, K., Jansen, M. and Van de Geijn, S.C. 19**99**. “Seasonal Effects of Elevated CO2 on Winter Wheat Reference Seasonal changes in the response of winter wheat to elevated atmospheric CO2 concentration grown in open-top chambers and field tracking enclosures. Global Change Biology 5: 563-576. What was done The authors grew winter wheat (Triticum aestivum cv. Ritmo) in open-top chambers and field-tracking sun-lit climatized enclosures receiving atmospheric CO2 concentrations of ambient and ambient plus 350 ppm CO2 (elevated) for two years to study seasonal responses of this important cereal crop to elevated CO2.)

Elevated CO2 had little effect on canopy photosynthesis and biomass production early in the spring (January until April). However, as the season progressed, and air temperature and solar irradiance rose, so too did the positive effects of elevated CO2 on these plant processes increase. Canopy photosynthesis, for example, was enhanced in CO2-enriched wheat by 40% in late spring, although it ultimately dropped to 23% by the end of the growing season. In addition, elevated CO2 increased final grain yield and total aboveground biomass by 19%. Elevated CO2 also reduced rates of evapotranspiration across the entire season by 10 to 21%, which consequently contributed to water-use efficiencies in CO2 enriched plants that were 47 to 77% greater than those observed in ambiently-grown plants. As the CO2 content of the air continues to rise, winter wheat should respond by exhibiting increases in canopy photosynthesis and biomass production, while simultaneously losing less water through each unit area of leaf surface. Thus, **winter wheat crops in a future high-CO2 world should produce significantly greater yields - and do it a more water-use efficient manner - than they do today.**

**Loss of Winter Wheat leads to high food prices**

**White** Feb 9 20**11** (Jay, who is an author for http://www.myweathertech.com “EXTREME WEATHER CONDITIONS MAY CAUSE FOOD SHORTAGE!” http://www.myweathertech.com/2011/02/09/extreme-weather-conditions-may-cause-food-shortage/

The UN’s Food and Agriculture Organization (FAO) has warned that a drought in China could devastate the nation’s winter wheat crop and further inflate food prices worldwide. Already, food prices hit a record high in January according to the FAO. Rising 3.4 percent since December, prices reached the highest point since tracking began in 1990. While many fear a food crisis similar to the one in 2008-2007, experts say the world has more food in reserve this time around and gasoline, at least for now, remains cheaper. However, if China loses its winter wheat that could **scuttle any hopes of avoiding another price rise in crop staples**. “Although the current winter drought has, so far, not affected winter wheat productivity, **the situation could become critical if a spring drought follows the winter one and/or the temperatures in February fall below normal,**” reads an FAO Early Warning on the situation. Usually winter wheat is protected against frost by snow, but in China, low snow cover and little precipitation has left the wheat exposed. Approximately 60 percent of China’s planted wheat is imperiled due to the drought. If China loses the crop, analysts say the massive country, which is largely self-sufficient in food, will be forced to import grain to make up for the loss, threatening to upset an already precariously balanced international food market.

**And high food prices causes Chinese food riots**

**Sherman** | February 4, 20**11** (Erik, is a widely-published writer and editor who also does select ghosting and corporate work. Food Riots in China: It Could Happen in the Center of Global Manufacturing http://www.bnet.com/blog/technology-business/food-riots-in-china-it-could-happen-in-the-center-of-global-manufacturing/8365 )

You’d think weather that damaged Chinese grain and fruit crops would be an agriculture story. But in a global economy, food shortages, revolts against Middle Eastern governments, and contract manufacturing can all come together in a potentially nasty business mix that must be on the list for any corporate risk management. Executives should be concerned that the response to sharp food price increases set off the revolt in Tunisia, especially as the UN warns of record **high commodity prices generating unrest.** There have already been protests in India. Although it is speculation, the conditions that could spark unrest in China exist now. Social disturbance could easily translate into difficulty in getting outsourced manufacturing completed or good shipped. Food riots have long history in modern China. There were at least 547 incidents from 1901 and 1949. There were others in the 1950s when China exported food during domestic shortages.

# 1NC WINTER WHEAT

**And that causes global nuclear war**

[Xie, Prof. Phil. At the Shandong U., Zhihe Wang, Professor at the School of Phil. And Soc. Sci. at Beijing Normal U., and George E. Derfer, School of Philosophy and the Social Sciences, and George E. Derfer, Prof. Emeritus @ Cal. Poly. Pomona, “Whitehead and China: Relevance and Relationship”, p. 28, Google Print, http://books.google.com/books?id=h1uJneLMjA4C&dq=isbn%3A3937202862&q=Nuclear+war#v=snippet&q=Nuclear%20war&f=false]

The threats posed by war, imperialism, nuclear weapons, and terrorism are, furthermore, not the only threats to the continued existence of civilization for which global anarchy is responsible. There are also the interconnected threats of pollution, overpopulation, and resource shortages. Although there has been serious discussion of the population explosion since the 1960s, very little has been done to stop it. China is one of the few countries to have introduced effective measures to bring a halt into runaway population growth. In the most of the rest of the world, the continuation of the population explosion means that already struggling societies will in the coming decades, be trying to meet the needs of twice as many people with the same resources, or even fewer. Resource wars, meaning wars in which natural resources are the primary cause, will surely become increasingly prevalent. As absolute shortages in food, water, and oil emerge, furthermore, the relative shortages, produced by the world's highly inequitable allocation of resources, will become even more intolerable to disadvantaged groups, providing additional motivation for terrorism against rich countries. Global apartheid combined with growing resources shortages combined with hatred of imperialism combined with **nuclearism** makes for a very volatile mixture.

# 2NC WINTER WHEAT

**High food prices leads to food riots.**

**Cohen** 11/28/20**10**, Dave (“China's Dangerous Food Crisis” <http://www.declineoftheempire.com/2010/11/chinas-dangerous-food-crisis.html>

Nothing instills the fear of God in a Chinese leader more than **soaring food prices,** which may be followed by food riots and general chaos in the streets, which may be followed by the Guillotine. Not lacking motivation, China's leaders are implementing price controls, subsidies and cracking down on hoarding. Unfortunately for them, China's economy is overheating and right now there appear to be more problems than China's government can reasonably be expected to handle. But that's the subject of another post. I will stick to their food problems today

**ANY reduction in wheat production causes political, economic, and social instability**

**Cornell** **08** (“Stem Rust: Historical Perspective”, Cornell University Durable Rust Resistance in Wheat Project, which functions in conjunction with the The Bill & Melinda Gates Foundation to bring awareness to the Ug99 wheat rust epidemic. http://wheatrust.cornell.edu/about/backgroundandrationale.cfm

Wheat represents approximately 30% of the world’s production of grain crops. The FAO predicts that 598 million tons of wheat will be harvested this year on 220 million hectares of land. Nearly half of that production will be harvested in developing countries. On average, each person in the world consumes 68.2 kilograms of wheat each year. That equates to about 630 calories per day per person, or 1/2 to 1/3 of the minimal energy requirements of most adults. In West Asia, North Africa, and Central Asia, wheat provides more calories than all other grains combined. The Middle East and North African countries consume over 150% of their own wheat production and are thus heavily dependent on imports. Once Ug99 and its derivatives have established themselves in North Africa, the Middle East, and South Asia, annual losses could reach US$ 3 billion in any given year. The effects on rural livelihoods and geopolitical stability would be incalculable. Large populations of poor wheat-growing farming families would be seriously affected and few would have alternative livelihoods. The impact on landless laborers dependent on agricultural jobs would also be severe, and one could anticipate an increase in the rural-urban migration of landless laborers and small farmers. Moreover, such large production losses would have significant implications for rural and national economic growth rates in seriously affected countries and could even affect global wheat markets. The Green Revolution introduced semi-dwarf wheat varieties developed in Mexico by Nobel Laureate Dr. N.E. Borlaug to various developing countries during the 1960s and 1970s. It not only helped feed the world at a time of impending famine but also triggered an industrial revolution in subsequent years. Increased crop production did not come just from the semi-dwarfs’ high yielding ability and higher input efficiency but also from their genetic resistance to the rust diseases. This resistance has saved billions of dollars annually by avoiding devastating epidemics that would have had major effects on global food supply and prices.

**Food riots cause collapse of order and economy – Empirically proven – People go nuts when they get hungry**

**Coldwell** Jan 17, 20**11** The Economic Collapse Economic Collapse, Food Riot , http://theonlyanswertotyranny.com/blog/2011/01/18/the-economic-collapse/

The stunningly violent food riots in Tunisia and Algeria show just how quickly things can change. Just a few months ago, these two northern Africa nations were considered to be very stable, very peaceful and without any major problems. But now protesters are openly squaring off with police in the streets. Many of the protesters are throwing “fire bombs” or are shooting fireworks at the authorities, and the police are responding with a tremendous amount of violence themselves. In Algeria, several protesters have been killed by police and several others have actually set themselves on fire to protest the economic conditions. In Tunisia, more than 100 people have been killed and the president of that country actually had to flee for his life. But on a global scale, food shortages have not even gotten that bad yet. Yes, food prices are starting to go up and food supplies are a little bit tighter right now, but much worse times than these are coming. So what in the world are the cities of the world going to look like when we have a very serious food shortage? Just as we saw during the food riots of 2008, when people get to the point where they can’t even feed themselves anymore, they tend to lose it. In the video posted below, you can really feel the desperation of these young Algerians as they riot in the streets….This next video is of the food riots in Tunisia. You will not want to let any young children watch this video. In fact, if watching police beat and smash protesters laying on the ground upsets you, then you might not want to watch this video either. The massive food riots that have erupted in Tunisia have left many city streets looking like war zones and at this point it is being reported that the violence has left over 100 people dead. The president of Tunisia has left the country because of the rioting, and an interim president has been sworn in. It is hoped that this will help restore order.

# \*\*\*WARMING SLOW/NOT ANTHROPOGENIC\*\*\*

**Global warming is not anthropogenic**

Deweese December 14, 2004 (Tom De Weese is one of the nation's leading advocates of individual liberty, free enterprise, property rights and back-to-basics education. For over thirty years he has fought against government oppression. Tom There Is NO Man-Made Global Warming

There is no scientific evidence to back claims of man-made global warming. Period. Anyone who tells you that scientific research shows warming trends--be they teachers, newscasters, Congressmen, Senators, Vice Presidents or Presidents--is wrong. In fact, scientific research through U.S. government satellite and balloon measurements shows that the temperature is actually cooling--very slightly--.037 degrees Celsius. A little research into modern-day temperature trends bears this out. For example, in 1936 the Midwest of the United States experienced 49 consecutive days of temperatures over 90 degrees. There were another 49 consecutive days in 1955. But in1992 there was only one day over 90 degrees and, in 1997, only 5 days. Because of modern science and improved equipment, this "cooling" trend has been most accurately documented over the past 18 years. Ironically, that's the same period of time the hysteria has grown over dire warnings of "warming."

**Global Warming is not man made**

**Lupo 2k** - Author/Quals: Anthony R. Lupo is assistant professor of atmospheric science at the University of Missouri at Columbia and served as an expert

reviewer for the UN’s Intergovernmental Panel on Climate Change. Article: Global warming natural not manmade URL: <http://www.napsnet.com/pdf_archive/34/50144.pdf> Date: 2000

(NAPSA)—One of the fundamental tenets of our justice system is one is innocent until proven guilty. While that doesn’t apply to scientific discovery, in the global warming debate the prevailing attitude is that human induced global warming is already a fact of life and it is up to d o u b t e r s t o pr o v e otherwise. To complete the analogy, I’ll add that to date, there is no credible evidence to demonstrate that the climatological changes we’ve seen since the mid-1800’s are outside the bounds of natural variability inherent in the earth’s climate system. Thus, any impartial jury should not come back with a “guilty” verdict convicting humanity of forcing recent climatological changes. Even the most ardent supporters of global warming will not argue this point. Instead, they argue that humans are only partially responsible for the observed climate change. If one takes a hard look at the science involved, their assertions appear to be groundless. First, carbon dioxide is not a pollutant as many claim. Carbon dioxide is good for plant life and is a natural constituent of the atmosphere. During Earth’s long history there has been more and less carbon dioxide in the atmosphere than we see today. Second, they claim that climate is stable and slow to change, and we are accelerating climate change beyond natural variability. That is also not true. Climate change is generally a regional phenomenon and not a global one. Regionally, climate has been shown to change rapidly in the past and will continue to do so in the future. Life on earth will adapt as it has always done. Life on earth has been shown to thrive when planetary temperatures are warmer as opposed to colder. Third, they point to recent model projections that have shown that the earth will warm as much as 11 degrees Fahrenheit over the next century. One should be careful when looking at model projections. After all, these models are crude representations of the real atmosphere and are lacking many fundamental processes and interactions that are inherent in the real atmosphere. The 11 degrees scenario that is thrown around the media as if it were the mainstream prediction is an extreme scenario. Most models predict anywhere from a 2 to 6 degree increase over the next century, but even these are problematic given the myriad of problems associated with using models and interpreting their output. No one advocates destruction of the environment, and indeed we have an obligation to take care of our environment for future generations. At the same time, we need to make sound decisions based on scientific facts. My research leads me to believe that we will not be able to state conclusively that global warming is or is not occurring for another 30 to 70 years. We simply don’t understand the climate system well enough nor have the data to demonstrate that humanity is having a substantial impact on climate change.

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**Warming is not anthropogenic**

**Barach** 12-Aug-20**03** “Global warming not man-made phenomenon Hebrew University”, Canadian scientists cite data from study The Hebrew University of Jerusalem

Global warming will not be helped much by efforts to reduce carbon dioxide emission into the atmosphere, say two scientists who have studied the matter. Dr. Nir Shaviv, an astrophysicist from the Racah Institute of Physics of the Hebrew University of Jerusalem, and Prof. Jan Veizer a geochemist at the University of Ottawa in Canada and Ruhr University in Germany, say that temperature variations are due more to cosmic forces than to the actions of man. In a recent article published in GSA Today (the journal of the Geographic Society of America) and described in Nature, Shaviv and Veizer tell of their studies illustrating a correlation between past cosmic ray flux – the high-energy particles reaching us from stellar explosions -- and long-term climate variability, as recorded by oxygen isotopes trapped in rocks formed by ancient marine fossils. The level of cosmic ray activity reaching the earth and its atmosphere is reconstructed using another isotopic record in meteorites. The study showed that peak periods of cosmic rays reaching the earth over the past 550 million years coincided with lower global temperatures, apparently due to the way that the cosmic rays promote low-level cloud formation (hence blocking out sun warming). **No** correlation was obtained, however, with the **changing amount of atmospheric carbon dioxide**. The conclusion of the two scientists is, therefore, that celestial processes seem to be the dominant influence on climate change, and that increased carbon dioxide release, while certainly not beneficial, is only secondary to those forces which are beyond our control. In practical terms, says Dr. Shaviv, "The operative significance of our research is that a significant reduction of the release of greenhouse gases will not significantly lower the global temperature, since only about a third of the warming over the past century should be attributed to man." Thus, say the scientists, the Kyoto accord of 1997 -- which was aimed at tackling the global warming phenomenon through limitations on carbon dioxide -- is not the panacea some thought it would be. Taking the long-range view, Dr. Shaviv and Prof. Veizer believe that fluctuations in cosmic ray emissions account for about 75 percent of climate variation over millions of years. They acknowledge that this position pits them against prevailing scientific opinion, which still places a heavy emphasis on the negative role of greenhouse gases.

**Al Gore is not a credible source and global warming is not anthropogenic**

Andrew Gavin **Marshall 07** (Marshall is a writer for the Centre for Research on Globalization) (<http://www.globalresearch.ca/index.php?context=va&aid=5086>)

For those who saw Al Gore’s “documentary”, it was very convincing of its hypothesis that global warming is a man-made phenomenon that has the potential to kill us all and end humanity. After all, the film was filled with graphs and charts, so it must be true. Let’s just get something straight here, Al Gore is not a climatologist, meteorologist, astronomer, or scientist of any kind; he is a politician. And as we all know, politicians *always* tell the truth. However, as Al Gore’s popularity grows and with his recent winning of an Academy Award for his movie, the issue has spiraled into massive push for quick action and stifled debate, forcing many scientists to speak out and challenge the political status quo. A group of scientists recently stated that the research behind Al Gore’s film and in fact, [the concept of greenhouse gases causing global warming, is “a sham”.](http://www.dailymail.co.uk/pages/live/articles/technology/technology.html?in_article_id=440049&in_page_id=1965) They claim that in fact, there is very little evidence to prove that theory, and that the evidence actually points to an increase in solar activity being the cause of climate change. In Gore’s movie, he presented evidence that was found in the research done on ice core samples from Antarctica, which he claimed is proof for the theory of CO2 being the cause of rising temperatures. However, this group of scientists state that “warmer periods of the Earth's history came around 800 years before rises in carbon dioxide levels”, meaning that a rise in Carbon Dioxide follows a rise in temperature, rather than increasing temperature following rising CO2 emissions. And not only that, but it follows behind the rise in temperature by about 800 years. The group also mentions that, “after the Second World War, there was a huge surge in carbon dioxide emissions, yet global temperatures fell for four decades after 1940.” They also claim that the report given by the UN, which said it was backed by over 2,000 of the worlds leading scientists, “was a ‘sham’ given that this list included the names of scientists who disagreed with its findings.”

**It’s too late to stop Global Warming**

**West** **07** (Larry, who is a professional writer and editor who has written many articles about environmental issues for leading newspapers, magazines and online publications. He has been a guide at About.com since 2004. Global Warming is Unstoppable and Humans are to Blame, says UN Report Prompt action can slow global warming and reduce some of its impact By Larry West, About.com Guide - http://environment.about.com/od/globalwarming/a/ipcc\_report.htm.

On Friday, February 2, 2007, the United Nations’ Intergovernmental Panel on Climate Change (IPCC)—the leading international group of climate scientists—published a 20-page summary of a much longer scientific report, The Physical Basis of Climate Change [pdf], which confirms global warming is now “**unequivoca**l” and states with more than 90 percent certainty that human activity “very likely” has been the primary cause of rising temperatures worldwide since 1950. The report summary also says that global warming is likely to continue for centuries, and that it is already **too late** to stop some of the **serious consequences it will bring**—even if mankind could somehow hold the line on greenhouse gas emissions worldwide starting today.

# \*\*\*WARMING SLOW/NOT ANTHROPOGENIC\*\*\*

**Global warming is not anthropogenic, It’s happening throughout the solar system**

Andrew Gavin **Marshall 07** (Marshall is a writer for the Centre for Research on Globalization) (<http://www.globalresearch.ca/index.php?context=va&aid=5086>)

First off, it is very important to address the fact that Earth is not the only planet to be experiencing climate change in our solar system currently. In fact, many astronomers have announced that Pluto has been experiencing global warming, and suggested that it is a seasonal event, just like how Earth’s seasons change as the various hemispheres alter their inclination to the Sun. We must remember that it is the Sun that determines our seasons, and thusly has a greater impact upon the climate than we could ever even try to achieve. In May of 2006, [a report came forward](http://www.space.com/scienceastronomy/060504_red_jr.html) revealing that a massive hurricane-like storm that occurred on Jupiter may be caused by climate change occurring on the planet, which is expected to raise its temperatures by 10 degrees. [National Geographic News reported](http://news.nationalgeographic.com/news/2007/02/070228-mars-warming.html) that a simultaneous rising in temperature on both Mars and Earth suggest that climate change is indeed a natural phenomenon as opposed to being man-made. The report further explains how NASA has reported that Mars’ carbon dioxide ice caps have been melting for a few years now. Sound familiar? An astronomical observatory in Russia declared that, “the Mars data is evidence that the current global warming on Earth is being caused by changes in the sun”. They further point out that both Mars and Earth have, throughout their histories, experienced periodic ice ages as climate changes in a continuous fashion. [NASA has also been observing massive storms on Saturn](http://www.upi.com/NewsTrack/Science/20061109-022035-4126r/), which indicate a climate change occurring on that planet as well. NASA’s Hubble Space Telescope has also been [recording massive climate changes on Neptune’s largest moon](http://www.scienceagogo.com/news/19980526052143data_trunc_sys.shtml), Triton. Triton, whose surface was once made up of frozen nitrogen, is now turning into gas. The Associated Press has reported that satellites that measure the temperature of sunlight have been recording [an increase in the sun’s temperature](http://www.lubbockonline.com/news/092897/study.htm), meaning that the sun itself is warming up. Even the London Telegraph reported in 2004 that [global warming was due to the sun being hotter](http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2004/07/18/wsun18.xml&sSheet=/news/2004/07/18/ixnewstop.html) than it has ever been in the past 1,000 years. They cited this information from research conducted by German and Swiss scientists who claim that it is increasing radiation from the sun that is resulting in our current climate change.

**Antrhropogenic global warming is a lie, and the IPCC is biased.**

Andrew Gavin **Marshall 07** (Marshall is a writer for the Centre for Research on Globalization) (<http://www.globalresearch.ca/index.php?context=va&aid=5086>)

Claude Allegre, a leading French scientist, who was among the first scientists to try to warn people of the dangers of global warming 20 years ago, now believes that “[increasing evidence indicates that most of the warming comes of natural phenomena](http://www.canada.com/nationalpost/news/story.html?id=2f4cc62e-5b0d-4b59-8705-fc28f14da388)”. Allegre said, “There is no basis for saying, as most do, that the "science is settled." He is convinced that global warming is a natural change and sees the threat of the ‘great dangers’ that it supposedly poses as being bloated and highly exaggerated. Also recently, the President of the Czech Republic, Vaclav Klaus said, when discussing [the recent ruling](http://www.usatoday.com/weather/climate/globalwarming/2007-02-01-ipcc-report_x.htm) by the UN Intergovernmental Panel on Climate Change (IPCC), that global warming is man-made, “[Global warming is a false myth](http://newsbusters.org/node/10773) and every serious person and scientist says so. It is not fair to refer to the U.N. panel. IPCC is not a scientific institution: it's a political body, a sort of non-government organization of green flavor. It's neither a forum of neutral scientists nor a balanced group of scientists. These people are politicized scientists who arrive there with a one-sided opinion and a one-sided assignment.” And if you are about to ask why no politicians here seem to be saying this, Klaus offered up an answer, “Other top-level politicians do not express their global warming doubts because a whip of political correctness strangles their voice”. Nigel Calder, the former editor of New Scientist, [wrote an article](http://www.timesonline.co.uk/tol/news/uk/article1363818.ece) in the UK Sunday Times, in which he stated, “When politicians and journalists declare that the science of global warming is settled, they show a regrettable ignorance about how science works.” He further stated that, “Twenty years ago, climate research became politicised in favour of one particular hypothesis”. And in reference to how the media is representing those who dissent from the man-made theory he stated, “they often imagine that anyone who doubts the hypothesis of man-made global warming must be in the pay of the oil companies”, which is exactly what I believed up until I did my research. He also wrote, “Enthusiasm for the global-warming scare also ensures that heatwaves make headlines, while contrary symptoms, such as this winter’s billion-dollar loss of Californian crops to unusual frost, are relegated to the business pages”.

# A2: CO2 🡺 Warming

**Increased Co2 doesn't lead to Global warming**

Marc **Morano** Feb 25, 20**09** (Morano served as communications director for the Republicans on the U.S. Senate Committee on Environment and Public Works)( <http://epw.senate.gov/public/index.cfm?FuseAction=Minority.Blogs&ContentRecord_id=AF8F5B20-802A-23AD-49FB-8A2D53F00437>)

Washington, DC — Award-winning Princeton University Physicist Dr. Will Happer declared man-made global warming fears “mistaken” and noted that the Earth was currently in a “CO2 famine now.” Happer, who has published over 200 peer-reviewed scientific papers, made his remarks during today’s Environment and Public Works Full Committee Hearing entitled “Update on the Latest Global Warming Science.” “Many people don’t realize that over geological time, we’re really in a CO2 famine now. Almost never has CO2 levels been as low as it has been in the Holocene (geologic epoch) – 280 (parts per million - ppm) – that’s unheard of. Most of the time [CO2 levels] have been at least 1000 (ppm) and it’s been quite higher than that,” Happer told the Senate Committee. “Earth was just fine in those times,” Happer added. “The oceans were fine, plants grew, animals grew fine. So it’s baffling to me that we’re so frightened of getting nowhere close to where we started,” Happer explained. Happer also noted that “the number of [skeptical scientists] with the courage to speak out is growing” and he warned “children should not be force-fed propaganda, masquerading as science. Happer was pressed by the Committee on whether rising CO2 fears are valid. “I don’t think the laws of nature or physics and chemistry has changed in 80 million years. 80 million years ago the Earth was a very prosperous palace and there is no reason to suddenly think it will become bad now,” Happer added. Happer is a professor in the Department of Physics at Princeton University and former Director of Energy Research at the Department of Energy from 1990 to 1993, has published over 200 scientific papers, and is a fellow of the American Physical Society, the American Association for the Advancement of Science, and the National Academy of Sciences. Happer was reportedly fired by former Vice President Al Gore in 1993 for failing to adhere to Gore’s scientific views. “I believe that the increase of CO2 is not a cause for alarm and will be good for mankind,” Happer told the Committee. “What about the frightening consequences of increasing levels of CO2 that we keep hearing about? In a word, they are wildly exaggerated, just as the purported benefits of prohibition were wildly exaggerated,” he explained. “At least 90% of greenhouse warming is due to water vapor and clouds. Carbon dioxide is a bit player,” he added. “But the climate is warming and CO2 is increasing. Doesn’t this prove that CO2 is causing global warming through the greenhouse effect? No, the current warming period began about 1800 at the end of the little ice age, long before there was an appreciable increase of CO2. There have been similar and even larger warmings several times in the 10,000 years since the end of the last ice age. These earlier warmings clearly had nothing to do with the combustion of fossil fuels. The current warming also seems to be due mostly to natural causes, not to increasing levels of carbon dioxide. Over the past ten years there has been no global warming, and in fact a slight cooling. This is not at all what was predicted by the IPCC models,” Happer testified. “The existence of climate variability in the past has long been an embarrassment to those who claim that all climate change is due to man and that man can control it. When I was a schoolboy, my textbooks on earth science showed a prominent ‘medieval warm period’ at the time the Vikings settled Greenland, followed by a vicious ‘little ice age’ that drove them out. So I was very surprised when I first saw the celebrated ‘hockey stick curve,’ in the Third Assessment Report of the IPCC. I could hardly believe my eyes. Both the little ice age and the Medieval Warm Period were gone, and the newly revised temperature of the world since the year 1000 had suddenly become absolutely flat until the last hundred years when it shot up like the blade on a hockey stick. This was far from an obscure detail, and the hockey stick was trumpeted around the world as evidence that the end was near. We now know that the hockey stick has nothing to do with reality but was the result of incorrect handling of proxy temperature records and incorrect statistical analysis. There really was a little ice age and there really was a medieval warm period that was as warm or warmer than today,” Happer continued. “The whole hockey-stick episode reminds me of the motto of Orwell’s Ministry of Information in the novel 1984: ‘He who controls the present, controls the past. He who controls the past, controls the future.’ The IPCC has made no serious attempt to model the natural variations of the earth’s temperature in the past. Whatever caused these large past variations, it was not due to people burning coal and oil. If you can’t model the past, where you know the answer pretty well, how can you model the future?” he stated. “I keep hearing about the ‘pollutant CO2,’ or about ‘poisoning the atmosphere’ with CO2, or about minimizing our ‘carbon footprint.’ This brings to mind another Orwellian pronouncement that is worth pondering: ‘But if thought corrupts language, language can also corrupt thought.’ CO2 is not a pollutant and it is not a poison and we should not corrupt the English language by depriving ‘pollutant’ and ‘poison’ of their original meaning. Our exhaled breath contains about 4% CO2. That is 40,000 parts per million, or about 100 times the current atmospheric concentration. CO2 is absolutely essential for life on earth. Commercial greenhouse operators often use CO2 as a fertilizer to improve the health and growth rate of their plants. Plants, and our own primate ancestors evolved when the levels of atmospheric CO2 were about 1000 ppm, a level that we will probably not reach by burning fossil fuels, and far above our current level of about 380 ppm. We try to keep CO2 levels in our U.S. Navy submarines no higher than 8,000 parts per million, about 20 time current atmospheric levels. Few adverse effects are observed at even higher levels.”

# A2: CO2 🡺 Warming

**No Adverse effects from CO2**

H. Leighton **Steward 11** (Leighton Steward is a geologist, environmentalist, author, and retired energy industry executive)(<http://plantsneedco2.org/default.aspx?menuitemid=394>)

Almost all trace elements and compounds, even beneficial ones, can be poisonous if ingested or inhaled in large enough concentrations.  So what about carbon dioxide?  Do we have to worry about any deleterious health effects as its atmospheric concentration continues to climb? Inhaling *very* high concentrations of atmospheric CO2 can induce a state of *hypercapnia* in people.  Characterized by an excessive amount of CO2 in the blood, which typically results in*acidosis*, this condition is accompanied by headache, nausea, visual disturbances, and is sometimes fatal.  Several studies have demonstrated, however, that these problems do not seriously impact human health until the air's CO2 concentration reaches approximately 15,000 ppm (Luft*et al*., 1974; Schaefer, 1982), which is approximately 40 times greater than its current concentration.  Clearly, therefore, we do not have to worry about there being any direct adverse health effects associated with the ongoing rise in the air's CO2 content, even if it were to increase by a factor of ten, which is probably all that could be achieved by burning the entire supply of fossil fuels in the crust of the Earth.  In fact, the current CO2 concentration of the air in many homes and buildings is often two to three times greater than the CO2 concentration of outdoor air (Idso, 1997), which in large cities is itself often elevated by several tens of percent above the CO2 concentration of rural air (Idso et al. 1998, 2002).

**CO2 does not cause global warming more than 18 alt causes**

**CO2isGreen 11** (Co2isGreen is an organization whos purpose is to support scientifically and economically sound public policy on environmental issues)( <http://co2isgreen.org/default.aspx/MenuItemID/139/MenuGroup/Home.htm>)

As humans emit CO2 when we breathe, it is illogical to assert that CO2 is a direct health hazard. Nonetheless, CO2 has been unjustly vilified and is currently under review by the EPA for an "Endangerment Finding" that CO2 is hazard to humanity. Judicial review has found that the EPA could consider CO2 as a pollutant. CO2 has been identified as a cause of global warming and legislation has been proposed to raise taxes, raise consumer energy prices, and, in theory, to reduce CO2 emissions. Most of the early scientific studies that have led to the Supreme Court rulings, and EPA Endangerment Finding, have not given accurate account of the 18 climate drivers that are responsible for global warming. Indeed, the sun's effect has been mandated to be held constant whereas there are many observations that the sun's effects are variable. Since CO2 is only 0.0385% of the Earth's atmosphere and modern science indicates it has a very small impact on global warming - other factors are much more important..